

WHAT IS CLAIMED IS:

1. A microplate, comprising:
a frame including a plurality of wells formed therein,
5 said frame is manufactured from a thermoplastic material
that has been mixed with a non-toxic surface active
material that can enhance a lubricious property of a
surface of said frame which makes it easier to handle said
frame.
- 10 2. The microplate of Claim 1, wherein said frame can
be easily removed from a thermocycler.
3. The microplate of Claim 1, wherein said frame can
15 be easily removed from an injection molding machine.
4. The microplate of Claim 1, wherein said non-toxic
surface active material is a surfactant.
- 20 5. The microplate of Claim 4, wherein said
surfactant has a hydrophilic-lipophilic balance number
which is less than two.
6. The microplate of Claim 4, wherein said
25 surfactant is a polyoxyethylene fatty ether.

7. The microplate of Claim 6, wherein said polyoxyethylene fatty ether has a molecular structure of $\text{CH}_3(\text{CH}_2)_{17}-(\text{OCH}_2\text{CH}_2)_n-\text{OH}$.

5 8. The microplate of Claim 1, wherein said non-toxic surface active material is a ethoxylated fatty alcohol.

9. The microplate of Claim 1, wherein said non-toxic surface active material is stearyl alcohol.

10 10. The microplate of Claim 1, wherein said thermoplastic material is polypropylene.

11. A multiwell plate manufactured in such a way so as to improve the ability to properly carry out a polymerase chain reaction process, said multiwell plate comprising:

15 a frame including a plurality of wells formed therein, said frame is manufactured from a thermoplastic material that has been mixed with a non-toxic surface active that can enhance a lubricious property of a surface of said frame which makes it easier to remove said frame from a thermocycler.

20 21. The microplate of Claim 11, wherein said non-toxic surface active material is a surfactant with a hydrophilic-lipophilic balance number of less than two.

13. The microplate of Claim 11, wherein said surfactant is a polyoxyethylene fatty ether that has a molecular structure of $\text{CH}_3(\text{CH}_2)_{17}-(\text{OCH}_2\text{CH}_2)_n-\text{OH}$.

5 14. The microplate of Claim 11, wherein said non-toxic surface active material is a surfactant that has a percentage of weight relative to said thermoplastic material that was determined in order to minimize extraction of said non-toxic surface active material from
10 said surface during the polymerase chain reaction process.

15 15. The microplate of Claim 11, wherein said non-toxic surface active material is stearyl alcohol.

16 16. The microplate of Claim 11, wherein said thermoplastic material is polypropylene.

17 17. The microplate of Claim 11, wherein said frame has a footprint capable of being handled by a robotic
20 handling system.

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18. A method for making a microplate, said method comprising the steps of:

- 5 liquefying a non-toxic surface active material;
 coating pellets of thermoplastic material with said
 liquefied non-toxic surface active material;
 extruding said pellets of thermoplastic material
 coated with said non-toxic surface active material to
10 create a melt blend;
 cooling said extruded melt blend;
 pelletizing said cooled melt blend;
 melting said pelletized melt blend;
 injecting said melted blend into a mold cavity of an
15 injection molding machine, said mold cavity includes
 sections shaped to form said microplate;
 cooling the injected melt blend to create said
 microplate; and
 removing said microplate from the injection molding
20 machine, wherein the non-toxic surface active material
 enhances a lubricious property of a surface of said
 microplate which makes it easier to remove said microplate
 from the injection molding machine.

- 25 19. The method of Claim 18, wherein said non-toxic
 surface active material is a surfactant with a hydrophilic-
 lipophilic balance number of less than two.

20. The method of Claim 18, wherein said surfactant is a polyoxyethylene fatty ether that has a molecular structure of $\text{CH}_3(\text{CH}_2)_{17}-(\text{OCH}_2\text{CH}_2)_n-\text{OH}$.

5 21. The method of Claim 18, wherein said non-toxic surface active material is stearyl alcohol.

22. The method of Claim 18, wherein said thermoplastic material is polypropylene.

10 23. A method for using a microplate, said method comprising the steps of:

placing the microplate into a thermocycler, said microplate includes:

15 a frame having a plurality of wells formed therein, said microplate is manufactured from a combination of thermoplastic material and non-toxic surface active material;

operating the thermocycler so as to cycle the
20 temperature of contents within the wells of said microplate; and

removing the microplate from the thermocycler, wherein the non-toxic surface active material enhances a lubricious property of a surface of said microplate which makes it
25 easier to remove said microplate from the thermocycler.

24. The method of Claim 23, wherein said microplate is manufactured in such a way so as to improve the ability to properly carry out a polymerase chain reaction process.

5 25. The method of Claim 23, wherein said non-toxic surface active material is a surfactant with a hydrophilic-lipophilic balance number of less than two.

10 26. The method of Claim 23, wherein said surfactant is a polyoxyethylene fatty ether that has a molecular structure of $\text{CH}_3(\text{CH}_2)_{17}-(\text{OCH}_2\text{CH}_2)_n-\text{OH}$.

15 27. The method of Claim 23, wherein said non-toxic surface active material is a surfactant that has a percentage of weight relative to said thermoplastic material that was determined in order to minimize extraction of said non-toxic surface active material from said surface during a polymerase chain reaction process.

20 28. The method of Claim 23, wherein said non-toxic surface active material is stearyl alcohol.

25 29. The method of Claim 23, wherein said thermoplastic material is polypropylene.